

REMARKS

Claims 1-20 are pending herein.

I. The obviousness rejections of claims 1-20 based on Gelbart (US 5,305,091), as noted on page 2 of the Office Action.

The USPTO respectfully rejects claims 1-20 under 35 U.S.C. § 103(a) as being unpatentable based on Gelbart. Claim 1 is an independent claim.

A. Gelbart does not teach or suggest that an emission direction of the laser radiation is controlled according to the rotation of the rotatable portion, as claimed in claim 1.

Claim 1 claims in relevant part:

“at least a first optical fiber system for optically interconnecting the first laser radiation source and the first optical detector with an emission end of the first optical fiber system, the emission end disposed on the rotatable portion for emitting laser radiation to the remote target and for receiving laser radiation reflected from the remote target, **wherein an emission direction of the laser radiation is controlled according to the rotation of the rotatable portion.**”
(emphasis added)

Regarding these limitations, it is respectfully not seen where the cited references teach or suggest the claimed structure quoted above.

For example, the USPTO respectfully argues on page 2 of the Office Action that structure 3 of Gelbart is the specifically claimed rotation portion of claim 1, and that an emission direction of the laser radiation is controlled according to the rotation of the rotatable portion (purportedly structure 3 of Gelbart). The USPTO further respectfully argues on page 3 of the Office Action that “it would be inherent that the laser radiation is controlled by initially aligning the portion (3) in the general direction of the target (2).” However, it is respectfully asserted that **this is a clear technical error by the USPTO that ignores the principle of operation of the device in Gelbart.**

First, it is respectfully important to note that the device in Gelbart is intended to be a measurement system that covers a “large volume” (see column 1, lines 47-56 of Gelbart).

This is done through the use of a cordless probe 4 that can be placed on various points of the target object 2. Accordingly, **because cordless probe 4 is moved to various points of a large measurement volume, it does not make technical sense for structures 3 of Gelbart to be “aligned in the general direction of the target” as argued by the USPTO.** In other words, because the device in Gelbart must cover a large measurement volume, there is no “general direction of the target” as argued by the USPTO.

Second, the USPTO’s argument that an emission direction of the laser radiation is controlled according to the rotation of the rotatable portion ignores the explicit “principle of operation” of the device in Gelbart (see MPEP 2143.01 VI). For example, column 5, lines 53-60 note that the beam is directed to the target (i.e., retroreflector 5 or 6) using steering mirrors 21 and 22, which are respectively rotated by motors 23, 25. Thus, **it is the rotation of mirrors 21 and 22 of Gelbart that control an emission direction of the laser radiation, and not structure 3 as argued by the USPTO.** Thus, the USPTO’s proposed interpretation of the Gelbart reference changes the “principle of operation” of the device in Gelbart. Therefore, Gelbart respectfully does not teach or suggest that an emission direction of the laser radiation is controlled according to the rotation of the rotatable portion, as claimed in claim 1.

It is also respectfully important to note that mirrors 21 and 22 alone cannot be the specifically claimed rotatable portion of claim 1. For example, claim 1 also claims that an emission end of an optical fiber system is disposed on the rotatable portion. **As clearly seen in Figure 4 of Gelbart, there is no end of an optical fiber system disclosed on the rotating parts of mirrors 21, 22 or motors 23, 25 of Gelbart.** Thus, mirrors 21 and 22 cannot be the specifically claimed rotatable portion of claim 1.

Thus, because rotation of mirrors 21, 22 of Gelbart control an emission direction of laser radiation and mirrors 21, 22 of Gelbart cannot be the specifically claimed rotatable portion of claim 1, it respectfully follows that Gelbart cannot teach or suggest that an emission direction of the laser radiation is controlled according to the rotation of the rotatable portion, as claimed in claim 1.

In contrast, present Figures 1-3 illustrate at least one possible embodiment of the claimed structure quoted above. For example, present Figure 1 shows a stationary base 101

(i.e., a stationary portion), and **a rigid structure 190 (i.e., a rotatable portion) that can be rotated with respect to stationary base 101 by motors 80, 81.** Additionally, as explained in detail on page 15, lines 11-17 of the present specification, **motor 81 rotates rigid structure 190 so that laser beam 153 points toward retroreflector 107.** In other words, an emission direction of the laser radiation 153 is controlled according to the rotation of the rotatable portion 190, as claimed in claim 1.

The distinction noted above is important and non-trivial because it results in significant advantages over conventional devices. For example, as noted on page 5 of the present specification, the specifically claimed structure of claim 1 allows **for improved laser beam steering, six degree of freedom measurements, and the capability to locate multiple retroreflectors distributed throughout large volumes.** Additionally, the specifically claimed device of claim 1 can be **easily manufactured at a low cost without requiring complex beam-steering optics.**

Thus, it is respectfully asserted that Gelbart does not teach or suggest all of the limitations of independent claim 1. Therefore, it is respectfully asserted that independent claim 1 is allowable over Gelbart.

B. The dependent claims.

As noted above, it is respectfully asserted that independent claim 1 is allowable, and therefore it is further respectfully asserted that dependent claims 2-20 are also allowable.

II. Conclusion.

Reconsideration and allowance of all of the claims is respectfully requested.

If there are any additional charges with respect to this Amendment or otherwise, please charge them to Deposit Account No. 06-1130.

Please contact the undersigned for any reason. Applicants seek to cooperate with the Examiner including via telephone if convenient for the Examiner.

Respectfully submitted,

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